



Paul E. Helliker
Director

Department of Pesticide Regulation



Gray Davis
Governor
Winston H. Hickox
Secretary, California
Environmental
Protection Agency

MEMORANDUM

TO: Alan C. Lloyd, Ph.D., Chair
Air Resources Board

FROM: Paul E. Helliker *Paul Helliker*
Director
(916) 445-4000

DATE: January 2, 2002

SUBJECT: PROPOSED TOXIC AIR CONTAMINANT MONITORING FOR 2002

Pursuant to Food and Agricultural Code section 14022(c), the Department of Pesticide Regulation (DPR) requests that the Air Resources Board (ARB) monitor for the following chemicals in 2002:

- Acephate
- Chloropicrin
- Chlorothalonil
- Methamidophos
- Sulfuryl fluoride

Basis for Selection of Pesticides

DPR has drafted a revised prioritization based on a workshop and follow-up discussions with the Scientific Review Panel. Discussions with the Scientific Review Panel continue, but DPR has developed an interim prioritization to guide the selection of pesticides for monitoring (see enclosed letter to John Froines).

Methamidophos and sulfuryl fluoride are highly ranked pesticides based on the interim prioritization. Acephate is ranked lower, but breaks down to methamidophos. Chloropicrin and chlorothalonil are also highly ranked, and ARB conducted monitoring in the 1980s and 1990s. For chloropicrin, structural applications were not monitored previously. For chlorothalonil, only a few of the ambient samples had detectable levels. The low frequency of detection may have been due to lack of applications near the monitoring sites. DPR now has more comprehensive pesticide use data to provide better information on location of chlorothalonil applications. In addition, the study design for application site monitoring has changed significantly since the monitoring was conducted. Application site monitoring using the current study design will enable DPR to use computer modeling to supplement the monitoring data.



Aluminum phosphide and sulfur dioxide are the highest ranked pesticides in DPR's interim prioritization; however, DPR is not requesting monitoring for these chemicals at this time. The active agent of aluminum phosphide is the breakdown product phosphine. Since phosphine is a hazardous air pollutant under the federal Clean Air Act, DPR plans to list phosphine-generating compounds administratively. Sulfur dioxide is a criteria air pollutant with numerous sources of emissions, so we will delay this request for monitoring until a study design can be developed to target pesticidal uses of sulfur dioxide.

Specific Monitoring Requests

Application site monitoring should be conducted for chloropicrin and sulfuryl fluoride applications to structures, and acephate, chlorothalonil, and methamidophos applications to agricultural fields. Depending on the results of the 2000 monitoring, DPR may request additional application site monitoring for chloropicrin fumigations of agricultural fields. Ambient monitoring should be conducted for acephate, chlorothalonil, and methamidophos.

Monitoring should coincide with areas and times of peak pesticide use. DPR will recommend the number, location, and time of the monitoring after evaluating the 2000 pesticide use reports. However, based on pesticide use data from previous years, ambient monitoring for acephate, chlorothalonil, and methamidophos should occur concurrently in Fresno County during June through August. Applications of chloropicrin and sulfuryl fluoride to structures occur year-round, so monitoring may be conducted at any time.

Monitoring for some of the pesticides should occur simultaneously. Sulfuryl fluoride is always applied with chloropicrin, and the two should be monitored simultaneously. Some monitoring will be targeted for acephate and some for methamidophos, but sampling and analysis should be conducted for both chemicals simultaneously.

Except for methamidophos, no other breakdown products need to be monitored.

Based on a preliminary assessment of the toxicology data, DPR requests the following target quantitation limits:

	<u>Application Site Monitoring</u>	<u>Ambient Monitoring</u>
Acephate	0.1 $\mu\text{g}/\text{m}^3$	5 ng/m^3
Chloropicrin	0.1 $\mu\text{g}/\text{m}^3$	no monitoring
Chlorothalonil	5 $\mu\text{g}/\text{m}^3$	1 ng/m^3
Methamidophos	0.05 $\mu\text{g}/\text{m}^3$	1 ng/m^3
Sulfuryl fluoride	30 $\mu\text{g}/\text{m}^3$	no monitoring

Alan C. Lloyd, Ph.D.
January 2, 2002
Page 3

ARB staff have a number of questions and concerns regarding the safety of monitoring for chloropicrin and sulfuryl fluoride. ARB and DPR staff and managers met several times over the last year, but were unable to resolve all of the safety issues. I suggest DPR Chief Deputy Director Paul Gosselin and ARB Executive Officer Mike Kenny meet to discuss the issues.

Enclosure

cc: Joan Denton, Ph.D., Director, Office of Environmental Health
Hazard Assessment (w/Enclosure)
John Froines, Ph.D., Chair, Scientific Review Panel (w/Enclosure)
Mike Kenny (w/Enclosure)
Paul Gosselin (w/Enclosure)

Alan C. Lloyd, Ph.D.
January 2, 2002
Page 4

bcc: Bill Loscutoff, Air Resources Board (w/o Enclosure)
Jeff Cook, Air Resources Board (w/o Enclosure)
Michael Poore, Air Resources Board (w/o Enclosure)
Ken Stroud, Air Resources Board (w/o Enclosure)
Jim Behrmann, Air Resources Board (w/o Enclosure)
Lynn Baker, Air Resources Board (w/o Enclosure)
Kevin Mongar, Air Resources Board (w/o Enclosure)
George Alexeeff, Office of Environmental Health Hazard Assessment (w/o Enclosure)
Melanie Marty, Office of Environmental Health Hazard Assessment (w/o Enclosure)
Doug Okumura (w/o Enclosure)
John Sanders, Ph.D. (w/o Enclosure)
Tobi Jones (w/o Enclosure)
Gary Patterson (w/o Enclosure)
Chuck Andrews (w/o Enclosure)
Shifang Fan (1807 files) (w/Enclosure)
Segawa Surname File (w/o Enclosure)